REMARKS

This paper is submitted in reply to the Office Action dated May 18, 2000. A request for a one-month extension of time has been submitted concurrently herewith. Therefore, the period for response extends up to and includes September 18, 2000. Reconsideration and allowance of all pending claims are respectfully requested.

In the subject Office Action, all of the pending claims (claims 1-9, 11, 15-36 and 39 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,974,441 to Rogers et al. in view of Orchard, "Java and Objects", and further in view of U.S. Patent No. 5,857,100 to Phillips et al. Applicant respectfully traverses the Examiner's rejections to the extent that they are maintained.

As an initial matter, Applicant has amended claims 15-17 to address an antecedent basis issue with respect to these claims. These amendments were not made based upon the prior art, but were directed merely to matters of form.

Turning now to the subject Office Action, all of the pending claims were rejected as being obvious in view of the combination of Rogers et al., Orchard and Phillips et al. First addressing claim 1, this claim recites an apparatus including a computer program that enables client object-server object interaction for a client object located on a zero install client. The client object-server object interaction is enabled by <u>delivering an object reference for a naming context object to said zero install client after said zero install client has contacted said computer program</u>.

As discussed, for example, at pages 14 and 15 of the application, the claimed invention addresses the specific problem associated with "bootstrapping" a zero install client to permit the client to work with one or more object servers. In particular, the invention recited in claim 1 operates by delivering an object reference for a naming context object to the client <u>after</u> the client has contacted the computer program. As is further discussed on the cited pages, such bootstrapping is necessary to permit a Naming

Page 2 of 7
Serial No. 08/818,185
IBM Docket RO996-140
WH&E IBM/161
Amendment and Response
K:\ibm\161\Amendment and Response.wpd

Context Object (NCO) to be accessed for the purpose of providing a directory of objects that may be accessed from a server by a client.

Conventional client-server systems require that an Object Request Broker (ORB) client be installed on a client computer, with an object reference to the NCO installed within the ORB client. However, with a zero install client, it is desirable for the ORB client to be downloaded only as necessary in connection with a request to access the client-server system. In this context, the claimed invention facilitates such on-demand bootstrapping of an ORB client by delivering an object reference for a naming context object after a zero install client has initiated an interaction.

In rejecting claim 1, the Examiner relies on the combination of Rogers et al., Orchard and Phillips et al. However, Applicant respectfully submits that the claimed combination of references does not disclose or suggest each and every limitation of claim 1. Most notably, the cited references fail to disclose or suggest delivering an object reference for a naming context object to a zero install client after the client has contacted the computer program that delivers such object reference.

Rogers et al., for example, is silent as to any directory service for use in requesting objects. Instead, the reference appears to merely be directed to a distributed system facilitating access to multiple databases over the Internet, essentially providing an interface between proprietary databases and a standards-based network such as the Internet.

Orchard discloses (e.g., at page 14) that Java and CORBA may be used in connection with one another to provide a "zero-install client". However, there is no disclosure or suggestion within the reference of how such a zero-install client would be implemented. The reference does disclose that a Java enabled browser would fetch (1) an applet, (2) a stub class for IDL object reference, and (3) ORB and ORB naming services. However, the mere fact that Orchard discloses that such information is downloaded does not clearly teach to one of ordinary skill in the art that any form of object reference for a

Page 3 of 7
Serial No. 08/818,185
IBM Docket RO996-140
WH&E IBM/161
Amendment and Response
K:\ibm\161\Amendment and Response.wpd

naming context object is delivered <u>after</u> a zero install client has contacted a computer program, as is required by claim 1.

The disclosure of Orchard, in fact, is so sparse as to make it unclear as to what the reference actually discloses. It appears that the most likely reading of the phrase "ORB and ORB naming services" refers to the actual client code used to access server objects using an ORB naming service. However, there is no clear teaching in the reference of the transmission of an <u>object reference to a naming context object</u> as is required by claim 1.

In order to render a claimed concept obvious, a reference must clearly and unambiguously teach that concept to one of ordinary skill in the art. An ambiguous disclosure such as this falls far short of clearly teaching this particular concept. As such, the Examiner has failed to meet the burden of establishing that Orchard discloses the recited transmission of an object reference to a naming context object. Therefore, Orchard adds nothing to the Examiner's rejection.

Moreover, with respect to Phillips et al. this reference is silent as to any bootstrap function whatsoever. The Examiner's citation of columns 8 and 60 of Phillips et al. merely discloses that conventional object naming services may be used in a distributed object system. However, as with Rogers et al. and Orchard, there is no disclosure or suggestion of the transmission of an object reference for a naming context object to a zero install client after the zero install client has contacted a computer program that enables client-server interaction. Phillips et al. thus adds nothing to the rejection.

Moreover, even if the combination of references did disclose each and every feature of Applicant's claimed invention, Applicant respectfully submits that the Examiner has failed to raise a *prima facie* case of obviousness, as it appears the Examiner has simply aggregated disparate teachings of the references without establishing any suggestion or motivation on the part of the prior art to make the combination. There is no suggestion in any of the cited references of the particular problem addressed by Applicant's claimed invention, nor of any particular solution to that problem. Applicant

Page 4 of 7
Serial No. 08/818,185
IBM Docket RO996-140
WH&E IBM/161
Amendment and Response
K:\ibm\161\Amendment and Response.wpd

respectfully submits the Examiner has relied on hindsight in making the rejection, and thus, the rejection cannot be maintained.

As such, Applicant respectfully submits that claim 1 is non-obvious over the prior art of record. Reconsideration and allowance of claim 1, as well as claims 2-6 which depend therefrom, are respectfully requested.

Next, with respect to independent claim 7, this claim recites in part the downloading of an object reference for a naming context object from a server system to a client system after the client system has contacted the server system, where the client system is a zero install client. Likewise, claim 21 recites a computer program that delivers an object reference for a naming context object to a zero install client after being contacted by the zero install client. Claim 28 recites in part an applet used to retrieve an object reference for a naming context object from a server. In each of these claims, therefore, an object reference to a naming context object is being transmitted to a client. As such, for the same reasons as presented above with respect to claim 1, these claims are distinguishable from the prior art of record. Reconsideration and allowance of claims 7, 21 and 28, as well as claims 8-9, 11, 15-20, 22-27 and 29-32 which depend therefrom, are therefore respectfully requested.

Next, with respect to independent claims 33 and 34, these claims recite in part the concept of transmitting an object reference to a naming context object in response to a request by a web browser.

As discussed above with respect to claim 1, the cited art fails to disclose or suggest the transmission of an object reference for a naming context object from a server to a client. Moreover, specifically with regard to these two claims, the fact that the object reference is requested by a client such as a web browser is also not disclosed or suggested by the prior art of record. None of the cited references, and most notably Orchard, address the transmission of an object reference in response to a specific request by a client. In the illustrated implementation of the invention, it is in part this functionality

Page 5 of 7
Serial No. 08/818,185
IBM Docket RO996-140
WH&E IBM/161
Amendment and Response
K:\ibm\161\Amendment and Response.wpd

that supports the ability for a zero install client to be effectively bootstrapped without special configuration by a user. The client-side request for an object reference to a naming context object also greatly facilitates the bootstrapping procedure insofar as the maintenance of the object reference is simplified in the server, so that client requests to the server will result in the most current object reference being returned to those clients. And given that problem of bootstrapping a zero install client is apparently not appreciated or addressed by the art of record, Applicant respectfully submits that the cited art fails to disclose or suggest this claimed feature. Reconsideration and allowance of claims 33 and 34, as well as claims 35-36 and 39 which depend therefrom, are therefore respectfully requested.

As a final matter, Applicant also notes that claim 20 specifically recites the concept of downloading the class of an object request broker from a Web server. The benefit of downloading a class for an ORB client is discussed, for example, at page 26 of the application, as the need to create a specific instance of an ORB client is avoided. The prior art of record is completely silent as to this claimed feature. Moreover, the cited passage in Rogers et al. that the Examiner relies upon to teach this feature (column 8, line 58) appears to be irrelevant to the issue. Therefore, in addition to its dependency on independent claim 7, the claimed feature of downloading an ORB class also distinguishes claim 20 from the prior art of record. Reconsideration and allowance of claim 20 are therefore respectfully requested.
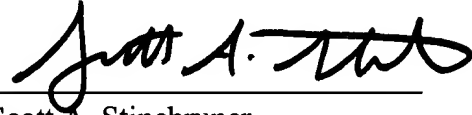
In summary, Applicant respectfully submits that claims 1-9, 11, 15-36 and 39 are novel and non-obvious over the prior art of record. Reconsideration and allowance of all pending claims are respectfully requested. If the Examiner has any questions regarding this paper, or which might otherwise further this case onto allowance, the Examiner may contact the undersigned at (513) 241-2324. Moreover, if any other charges or credits are

Page 6 of 7
Serial No. 08/818,185
IBM Docket RO996-140
WH&E IBM/161
Amendment and Response
K:\ibm\161\Amendment and Response.wpd

necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,

18 SEP 2000

Date

Scott A. Stinebruner
Reg. No. 38,323
WOOD, HERRON & EVANS, L.L.P.
2700 Carew Tower
Cincinnati, Ohio 45202
(513)241-2324

Page 7 of 7
Serial No. 08/818,185
IBM Docket RO996-140
WH&E IBM/161
Amendment and Response
K:\ibm\161\Amendment and Response.wpd